

CLAIMS

1. A G protein coupled receptor protein which comprises an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No:1 or a salt thereof.

2. The G protein coupled receptor protein according to claim 1, wherein the amino acid sequence substantially identical to an amino acid sequence represented by SEQ ID No:1 is an amino acid sequence represented by SEQ ID No:2 or a salt thereof.

3. A partial peptide of the G protein coupled receptor protein according to claim 1 or a salt thereof.

4. A polynucleotide which comprises a polynucleotide having a base sequence encoding the G protein coupled receptor protein according to claim 1.

5. The polynucleotide according to claim 4, which is a DNA.

6. The polynucleotide according to claim 4, which has a base sequence represented by SEQ ID No:3 or SEQ ID No:4.

7. A recombinant vector which comprises the polynucleotide according to claim 4.

8. A transformant transformed with the recombinant vector according to claim 7.

9. A method for producing the G protein coupled receptor protein or a salt thereof, which comprises culturing a transformant according to claim 8 to produce the G protein coupled receptor protein according to claim 1.

10. An antibody to the G protein coupled receptor protein according to claim 1 or the partial peptide according to claim 3 or a salt thereof.

11. The antibody according to claim 10, which is a neutralizing antibody which inactivates signal transmission of the G protein coupled receptor protein according to claim 1.

12. A diagnostic agent which comprises the antibody according to claim 10.

13. A ligand for the G protein coupled receptor protein according to claim 1 or a salt thereof, which is obtainable by using the G protein coupled receptor protein according to claim

1 or the partial peptide according to claim 3 or a salt thereof.

14. A medicine which comprises the ligand for the G protein coupled receptor protein according to claim 13.

15. A method for determining a ligand for the G protein coupled receptor protein according to claim 1 or a salt thereof, which comprises using the G protein coupled receptor protein according to claim 1 or the partial peptide according to claim 3 or a salt thereof.

16. A method for screening a compound which alters binding of a ligand with the G protein coupled receptor protein according to claim 1, or a salt thereof, which comprises using the G protein coupled receptor protein according to claim 1 or the partial peptide according to claim 3 or a salt thereof.

17. A kit for screening a compound which alters binding of a ligand with the G protein coupled receptor protein or a salt thereof according to claim 1, or a salt thereof, which comprises the G protein coupled receptor protein according to claim 1 or the partial peptide according to claim 3 or a salt thereof.

18. A compound which alters binding of a ligand with the G protein coupled receptor protein or a salt thereof according to claim 1 or a salt thereof, which is obtainable by using the method for screening according to claim 16 or the kit for screening according to claim 17.

19. A medicine which comprises a compound which alters binding of a ligand with the G protein coupled receptor protein or a salt thereof according to claim 1, or a salt thereof, which is obtainable by the method for screening according to claim 16 or the kit for screening according to claim 17.

20. A polynucleotide which hybridizes with the polynucleotide according to claim 4 under highly stringent conditions.

21. A polynucleotide which comprises a base sequence complementary to the polynucleotide according to claim 4 or a part thereof.

22. A method for quantitating a mRNA for the G protein coupled receptor protein according to claim 1, which comprises using the polynucleotide according to claim 4 or a part thereof.

23. A method for quantitating the G protein coupled receptor protein according to claim 1, which comprises using the antibody according to claim 10.

24. A method for diagnosing diseases associated with the
5 function of the G protein coupled receptor according to claim 1, which comprises using the quantitating method according to claim 22 or claim 23.

25. A method for screening a compound which alters an amount of the G protein coupled receptor according to claim 1 to
10 be expressed, or a salt thereof, which comprises using the method for quantitating according to claim 22.

26. A method for screening a compound which alters an amount of the G protein coupled receptor protein according to claim 1 or a salt thereof in a cell membrane, which comprises using the
15 method for quantitating according to claim 23.

27. A compound which alters an amount of the G protein coupled receptor protein according to claim 1 or a salt thereof, which is obtainable by using the method for screening according to claim 25.

28. A compound which alters an amount of the G protein coupled receptor protein according to claim 1 or a salt thereof in a cell membrane, which is obtainable by using the method for
20 screening according to claim 26.

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